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EXAMINER	
KNABLE, GEOFFREY L	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,195	GUTKNECHT, HEINZ	
	Examiner	Art Unit	
	Geoffrey L. Knable	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/23/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 1-12, 15 and 17-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 22-23, the term "operator" is confusing as the normal meaning of this term would be a *person* operating the device whereas it seems that this is intended to refer to a control device. Clarification of this apparent inconsistency is required. Note that this reference to an "operator" is present in several dependent claims as well.

Claim 15 is grammatically awkward and confusing.

In claim 17, line 5, no antecedent has been established for "the first cutting device".

In claim 19, line 2, no antecedent has been established for "the third conveyor".

In claim 23, lines 9-10 and 14-16, the reference to a "mutual distance of the bands" is indefinite and confusing as it is not clearly described what distance this represents - in other words, as presently phrased, this could conceivably describe any distance such as for example the length of the adjacent bands. As this is clearly not what is intended (i.e. it seems that this is intended to be a distance between adjacent bands), clarification is required. An analogous ambiguity is present in claim 26, line 6.

In claim 23, line 15, the reference to the mutual distance being "each time" adjusted is indefinite as it is not entirely clear what "each time" is in reference to. Note for example that this could conceivably be read as being in reference to an adjustment once for each ply or (as apparently intended) for each band that makes up a ply. Clarification is required.

In the last line of claim 23, prefacing the requirement by "preferably" renders the scope of the claim indefinite as it is not clear if this is a required feature of the claim.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 7-9 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Suda et al. (US 6,613,177).

As to claim 1, Suda et al. discloses a device for producing a belt/breaker ply having a longitudinal axis, a breaker ply length and mutually parallel cords at a pre-set cord angle to the longitudinal axis, wherein the device comprises: an extrusion device (15) for producing at least one continuous rubber strip (1) having substantially mutually parallel embedded longitudinal cords (11) having a centre-to-centre distance (set by 12) and having a strip width; a first transport device (30) for transporting the continuous

rubber strip in the direction of the longitudinal cords; a second transport device (20/40) for transporting the breaker ply in the longitudinal direction of the breaker ply in a transport direction, comprising a support surface for the breaker ply; a cutting device (17) for cutting bands (2) from the continuous strip diagonally at the cord angle; a building drum (41) for receiving the breaker ply coming from the second transport device, wherein the building drum has an axis of rotation, wherein the first transport device is adapted for transporting the continuous strip to the second transport device, the second transport device is positioned with its transport direction at an angle having the size of a cord angle to the direction of the longitudinal cords (e.g. fig. 1), the longitudinal direction of the breaker ply substantially corresponds to the transport direction, and the building drum is positioned with its axis of rotation substantially transverse to the second transport direction, wherein the second transport device is provided with a first drive (24) and a first operator for operating the first drive, wherein the operator is adapted for controlling the drive for adjustably moving the support surface of the second transport device with an adjustable transfer distance for positioning the next band, or a transport distance for transporting the breaker ply towards the building drum (col. 3, lines 23-30; col. 7, lines 21-25 and 50-54). In other words, the control for the drive (24) is adapted to move the conveyor (23) an adjustable distance, including for the “next band” when switching from one size to another belt ply. This reference therefore anticipated claim 1.

As to claims 7-9, note the placement device (30) that picks up and transfers the strip and that also includes the plate "31" that presses the joint and thus forms a splicer. As to claim 11, note conveyors 20 and 40 (fig. 1).

5. Claims 2-6, 10, 12 and 20-22 are rejected under 35 U.S.C. 103(a) as obvious over Suda et al. (US 6,613,177).

As to claims 2 and 20-22, a computing means is described that calculates the number of strips required as well as the transfer distance/pitch - e.g. note col. 3, lines 23-30, 46-53. A memory for strip width and ply length is thus implicit or certainly necessary and obvious. Given that cord pitch is one of the well known parameters that characterizes a tire ply material, provision of memory for the center to center distance (i.e. cord pitch) would have been obvious to fully characterize the strips. It likewise would have enabled a check to assure that the distance of the cords at the joint is not excessive when compared to the cord pitch, only the predicted and expected results being achieved. As to claim 3, Suda et al. recalculates the transfer distance again for each breaker ply. As to claim 4, given that Suda et al. desires to join the calculated number of strips (e.g. col. 3, lines 31-35), effecting the control in a manner that the number of strips joined is counted, and transport to the drum is effected when the ply is complete, would have been implicit or certainly obvious. As to claim 5, such means that allows counting of the number of strips would have also necessarily been providing a measurement of the ply during its building. As to claim 6, as already noted, the device is adapted to adjust the transfer distance for example when changing types of plies. As to claim 10 and 12, Suda et al. provides a building servicer "40" that transfer the ply to

the drum. Although specifics of the servicer are not described, a tire servicer conveyor provided in a manner that it can be movable to and from a position adjacent a building drum represents standard, well known and typical tire servicing equipment (to for example allow free space around the drum between applying steps) - providing the servicer conveyor "40" to be movable towards the drum would therefore have been obvious and typical in this art lead to only the expected and predictable results.

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suda et al. (US 6,613,177) as applied above, and further in view of Hirano et al. (US 4,474,338).

With respect to providing a measuring unit for measuring the length of the breaker ply during manufacturing, as already noted, with the suggestion to apply a calculated number of bands, the requisite device to effect counting of the bands would have suggested in effect a device for measurement of the ply during manufacturing. Further, in any event, it is also noted that measurement of ply length during a manufacturing process is also known and conventional in this art in order to assure forming an appropriate joint on the drum - Hirano et al. (e.g. col. 1, lines 26-50) is exemplary. To provide an additional unit to measure the ply length would therefore have been obvious to enable an accurate final joint on the drum.

7. Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suda et al. (US 6,613,177) as applied above, and further in view of Mancini et al. (US 2002/0062908).

As to claims 13-19, Mancini et al. is also directed to inline formation of tire belts and particularly suggests that two belts are advantageously formed side by side using a pair of drums as well as two parallel transport conveyors with a cutting means therebetween and that approach the drums from upper and lower sides to enhance productivity of the apparatus - note esp. figs. 1 and 8 and paragraphs [0039]-[0040]. To provide a second parallel forming structure would therefore have been obvious in order to allow enhanced productivity.

8. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suda et al. (US 6,613,177) taken in view of JP 2000-159399 to Suda, and optionally further in view of Hirano et al. (US 4,474,338).

Suda et al. discloses a method for producing a breaker ply having a longitudinal axis, a breaker ply length and mutually parallel cords at a pre-set cord angle to the longitudinal axis, wherein a continuous rubber strip (1) provided with substantially parallel longitudinal cords (11), a set strip width and set centre-to-centre distance between the longitudinal cords one to the other (by 12), is produced in the longitudinal direction by means of an extrusion process (note extruder 15), the continuous rubber strip is cut into bands (2) at the cord angle, a predetermined number of bands with cords substantially parallel and adjacent to each other at a set band distance with respect to each other for forming a breaker ply having a pre-set breaker ply length are placed on a support surface (23), wherein the mutual distance of the bands is calculated to obtain a set length of the breaker ply, when the breaker ply has reached the target breaker ply length the breaker ply is transported in longitudinal direction to a building

drum (note drum 41 and col. 3, lines 23-35 indicating that the calculated number of strip are joined), and is wound on the building drum, wherein a predetermined mutual centre-to-centre distance of the cords (by 12) and the width of the continuous strip (by extruder die) is set, the length of the breaker ply is measured during manufacturing (it is submitted that the requisite counting of the number of strips during manufacture would have also necessary been providing a measurement of the ply during its building). As to the mutual distance of the bands being "each time" adjusted for realizing a pre-set breaker ply length, it is first noted that it is not entirely clear what this is requiring (as noted in the 35 USC 112 rejection). In other words, if this is read as only requiring adjusting the mutual distance for each ply, Suda et al. suggests this as the distance is clearly recalculated for each ply. If, on the other hand, this is requiring that the distance is adjusted for each band within a ply (as appears intended), then Suda et al. does not suggests this.

JP '399 is directed to a very similar process to Suda et al. to form a cord reinforced ply by cutting and joining bands/strips (compare figures) and in particular suggests that it is desirable to measure each strip/band and to adjust the movement of the conveyor based on the measured width to achieve the optimum superposition distance between bands (note the figures, abstracts and supplied machine translation). This improves quality of the final ply by accounting for variation in the width of the bands as they are joined. To adjust the transport distance of each band and thus determine the degree of superposition/mutual distance again for each band to achieve the final preset breaker length would therefore have been obvious with an expectation if

improving the quality of the final ply. As to the adjustment of the mutual distance being at the most the centre-to-centre distance of the cords, given the contemplated range in the amount of the adjusted degree of superposition (e.g. figs. 7-9 of Suda et al.), the ordinary artisan would have understood that excessive adjustment should be avoided so that either excessive overlap or excessive spacing is avoided - only the expected and predictable results would have been achieved.

With respect to the length of the breaker ply being measured during manufacturing, as already noted, with the suggestion to apply a calculated number of bands, the requisite counting of the bands would have suggested in effect a measurement of the ply during manufacturing. Further, in any event, it is also noted that measurement of ply length during a manufacturing process is also known and conventional in this art in order to assure forming an appropriate joint on the drum - Hirano et al. (e.g. col. 1, lines 26-50) is exemplary. To measure the ply length would therefore have been obvious to enable an accurate final joint on the drum.

A method as required by claim 23 would therefore have been obvious. As to claims 24-25, Suda et al. suggest a computing means that calculates the number of strips required as well as the transfer distance/pitch - e.g. note col. 3, lines 23-30, 46-53. JP '399 likewise suggests use of a computer to make the necessary calculations.

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suda et al. (US 6,613,177) taken in view of JP 2000-159399 to Suda.

As to claim 26, Suda et al. discloses a method for building a breaker ply, wherein a continuous rubber strip (1) provided with cords (11) is produced in the longitudinal

direction by means of an extrusion process (note extruder 15), the continuous strip is cut into bands at a cord angle (note cutting device 17), the bands are placed adjacent to each other on a support surface (20) the cords one to the other being almost parallel and at a mutual band distance in order for several bands together to form a breaker ply having a pre-set length, the breaker ply on the support surface is transported to a building drum (41) and is wound onto the building drum. Further, Suda et al. determines the mutual distance between bands for each ply but does not suggest determining the mutual distance again for each band that makes up the breaker ply.

JP '399 is directed to a very similar process to Suda et al. to form a cord reinforced ply by cutting and joining bands/strips (compare figures) and in particular suggests that it is desirable to measure each strip/band and to adjust the movement of the conveyor based on the measured width to achieve the optimum superposition distance between bands (note the figures, abstracts and supplied machine translation). This improves quality of the final ply by accounting for variation in the width of the bands as they are joined. To adjust the transport distance of each band and thus determine the degree of superposition/mutual distance again for each band would therefore have been obvious with an expectation if improving the quality of the final ply.

10. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suda et al. (US 6,613,177) as applied to claim 26 above, and further in view of Mancini et al. (US 2002/0062908).

As to claims 27-30, Mancini et al. is also directed to inline formation of tire belts and particularly suggests that two belts are advantageously formed side by side using a

pair of drums that are rotatable in a horizontal plane about an axis perpendicular to the axis of rotation (esp. fig. 11), as well as using two conveyors that approach the oppositely rotated drums from upper and lower sides - this is described as a way to enhance productivity of the apparatus by forming two plies at the same time - note esp. figs. 1 and 8 and paragraphs [0039]-[0040]. To provide a second parallel forming structure with second drum configured as claimed would therefore have been obvious in order to provide enhanced productivity.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
March 14, 2009